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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

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ART UNIT	PAPER NUMBER
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DATE MAILED: 12/20/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/649,084

Applicant(s)
HO et al.

Examiner
Lynne Edmondson

Group Art Unit
1725



☒ Responsive to communication(s) filed on Aug 28, 2000

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-11 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 are rejected under 35 U.S.C. 102(b) as being anticipated by Quick et al. (USPN 5465899).

Quick teaches a wedge wire bonding apparatus comprising a bonding head, a longitudinal ultrasonic transducer (horn, 41 in figure 11) and workpiece supporting means (x-y table) wherein either the bond head or table may be rotated (col 2 lines 9-22) around a z axis (col 2 lines 63-66). In one embodiment, the bond head supporting means is fixed in the x-y direction (movement in z direction and rotation only) with movement of the workpiece in the x-y direction (col 6 lines 46 - col 7 line 10 and figure 11). In an alternate embodiment, the bonding apparatus comprises a similar apparatus with rotary movement of the workpiece supporting means (fixed in the x-y direction) with x-y movement of the bonding tool (col 7 lines 12-45 and figure 13). Note that the stitch bond angle is 45 degrees (col 5 line 1) and the rotation is around the z axis, at least one of the angular positions around the z axis (between 0 and 360 degrees) would be 45 degrees

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(figure 10). An operator may observe the process from any angle since the bonding area is open (figures 11 and 13). See also Quick claims 1-4, 7, 10-14 and 17.

2. Claims 1, 2 and 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Elles et al. (USPN 4239144).

Elles teaches a wedge wire bonder wherein the bonding tool moves through a 360 degree rotation (includes 45 degrees) (col 5 lines 18-35). Note in figure 13, bonds at a 45 degree angle. The bonding apparatus comprises a transducer having a longitudinal axis serving as a support for the bonding tool (col 6 lines 32-46). An operator can observe the process from a number of positions including a position where the transducer is pointing in the direction of the operator.

3. Claims 1, 3-5, 10 and 11 are rejected under 35 U.S.C. 102(b) as being rejected by Cheng et al. (USPN 5897048).

Cheng teaches an ultrasonic wedge wire bonder (col 1 lines 43-60) comprising a bonding tool on a support and a workpiece supporting means. The bonding tool or workpiece may be moved rotationally about a z axis (fixed in the x-y direction) with the other is moved in the x-y direction (col 2 lines 48-67, col 5 lines 10-39 and figures 3 and 4). Note transducer (608 in figure 6, col 7 lines 41-51) along a longitudinal axis, mounted for rotation movement. See also figure 9 and Cheng claim 1.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Elles et al. (USPN 4422568), Elles et al. (USPN 4361261), Gabaldon (USPN 5817848), Yoshida et al. (USPN 4039114), Kulicke, Jr. et al. (USPN 4073424), Chan et al. (USPN 4550871) and Horaleza et al. (USPN 6112973).
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699.

Geoffrey S. Evans
GEOFFREY S. EVANS
PRIMARY EXAMINER
GROUP 210
1/100

LRE

December 14, 2000